

WHAT IS CLAIMED IS:

1. An apparatus, comprising:
a heat transfer portion to receive heat from a heat source and to transfer heat from
5 the heat source; and
a remote heat sink adjacent to the heat transfer portion to remove heat from the
heat transfer portion, the remote heat sink including:
a solid metal portion that extends away from the heat transfer portion, and
a porous medium adjacent to the solid metal portion.
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2. The apparatus of claim 1, further comprising:
a blower fan to force air toward the remote heat sink.
3. The apparatus of claim 2, wherein the blower fan produces a pressure
15 differential across the remote heat sink.
4. The apparatus of claim 1, wherein the solid metal portion includes:
a plurality of solid metal portions that extend away from the heat transfer portion.
- 20 5. The apparatus of claim 4, wherein the solid metal portions are fins.
6. The apparatus of claim 5, wherein the fins are substantially parallel to each
other.
- 25 7. The apparatus of claim 5, wherein the porous medium is attached between two
fins.
8. The apparatus of claim 7, wherein the attachment is via compression.

9. The apparatus of claim 7, wherein the attachment is via a thermally conductive adhesive.

10. The apparatus of claim 1, wherein the heat source is a processor.

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11. The apparatus of claim 1, wherein the heat transfer portion is at least one of a heat pipe, a pumped loop, and a refrigeration loop.

12. The apparatus of claim 1, wherein the porous medium is a metal foam.

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13. The apparatus of claim 1, wherein the porous medium has a porosity near ninety percent.

14. The apparatus of claim 1, wherein the porous medium has a pore density of
15 five pores per inch.

15. A method, comprising:

transferring heat from a heat source using a heat transfer device adjacent to the heat source; and

20 dissipating heat from the heat transfer device using a remote heat sink adjacent to the heat transfer device, the remote heat sink having:

a solid metal portion that extends away from the heat transfer device, and
a porous medium adjacent to the solid metal portion.

25 16. The method of claim 15, further comprising:
using forced convection to increase the dissipation of heat.

17. The method of claim 16, wherein the forced convection is accomplished using a blower fan.

18. The method of claim 16, wherein the porous medium is a metal foam.

19. A system, comprising:

- 5 a substrate;
an electronic component mounted on the substrate;
a heat transfer device to receive heat from the electronic component and to
transfer heat from the electronic component;
a remote heat sink adjacent to the heat transfer device to remove heat from the
10 heat transfer device, the remote heat sink including:
a plurality of fins extending away from the heat transfer device; and
a porous medium attached between the plurality of fins;
a blower fan to expel heated air from the system; and
a battery adapter to provide battery power to at least one of the electronic
15 component and the blower fan.

20. The electronic system of claim 19, wherein the porous medium is a metal
foam.

20 21. The electronic system of claim 19, wherein the porous medium has a porosity
near ninety percent.

22. The electronic system of claim 19, wherein the porous medium has a pore
density of five pores per inch.

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23. The electronic system of claim 19, wherein the substrate is a circuit board.

24. The electronic system of claim 19, wherein the electronic component is a
processor.

25. The electronic system of claim 19, wherein the electronic system is a portable computer.